

**COPY**

SEQUENCE LISTING

<110> Gaudet, Daniel
 RiouxB, John D.
 Arsenault, Steve
 Hudson, Thomas J.
 Daly, Mark J.

<120> Glycerol As A Predictor of Glucose
 Tolerance

<130> 2825.1022-003

<140> US 09/694,088
<141> 2000-10-20

<150> US 60/161,141
<151> 1999-10-22

<160> 23

<170> FastSEQ for Windows Version 4.0

<210> 1
<211> 60
<212> DNA
<213> Unknown

<220>

<223> Partial nucleic acid sequence of the GK gene
 comprising a polymorphic site at nucleotide
 position 13 of exon 3

<400> 1

atgccttctt ttgtcaaaga tgggtggaac argaccctaa ggaaattctta cattctgtct 60

<210> 2
<211> 48
<212> DNA
<213> Unknown

<220>

<223> Partial nucleic acid sequence of the GK gene
 comprising a polymorphic site at nucleotide
 position 17 of intron 8

<400> 2

taatggtaaa aaacaaacaa amaaacaaaa aacacaccaa aaaaccaa

48

<210> 3
<211> 94
<212> DNA
<213> Unknown

<220>
 <223> Partial nucleic acid sequence of the GK gene
 comprising a polymorphic site at nucleotide
 position 29 of exon 10

<400> 3
 ttcattctcc cttcaaccat aggtatggaa caggatgtt cttactatgt ratacaggcc 60
 ataagggtgg ttttaataa aaatgattaa gtca 94

<210> 4
 <211> 58
 <212> DNA
 <213> Unknown

<220>
 <223> Partial nucleic acid sequence of the GK gene
 comprising a polymorphic site at nucleotide
 position 22 of intron 12

<400> 4
 gaaattggtg agtgtgttct aacaaaagkt tagaaaaatct gaaaaatgac acatttca 58

<210> 5
 <211> 8079
 <212> DNA
 <213> Unknown

<220>
 <223> Glycerol kinase gene

<221> misc_feature
 <222> 2214, 2215, 2216, 2217
 <223> n = A,T,C or G

<400> 5
 ggttcagcgg acgcgcgcgg cctcggtctc tggactcgac acctgcccct ccccccctcc 60
 ccggccgtcac ccagggaaacc ggccgcatac gcccggcgcac ctgaagctgg tttcatggca 120
 gcctcaaaga aggcaatggggccatgg tggggggcgg tggaccaggc caccagttcg 180
 acgcgtttt tggtagcccc ggggtgacat gtgaagaggc gctgagctgt aaaacgcacgg 240
 ccagtcatcc ttgatatactg cctgcatttt tacattaata ttacaatatac ttttcaggt 300
 tttcaattca aaaacagctg aactacttag tcatacatcaa gttagaaataa aacaagagtt 360
 cccaagagaaa gggtagttt ctaatattaa tatgtaaaga cacattatgt ttgttagtcc 420
 atctcacccca acttggccca atgccttctt ttgtcaaaga tgggtggaaac argaccctaa 480
 gggaaattctca cattctgtct atgagtgtat agagaaaaca tgtgagaaac ttggacagct 540
 caatattgtat atttccaaca taaaaggat ttttagtagaa tattttaccc acatgtaaaa 600
 cgacggccag ttgagagctg tttcctgaa gtatgttcta cttgttaat ttttgacttc 660
 cttctgttta actttcttta aaaaagctatt ggtgtcagca accagagggg aaccactgt 720
 gtctgggaca agataactgg agagcctctc tacaatgtg tgggtaaagct gtcatgcgt 780
 gatgtcaaat gtagggcctt tttcacatt gcaatgtaaa acgacggccca gttcccttgat 840
 agtgatttca gtaaggctt atttttttaa atgaagttt tcatgtatata tattttat 900
 tggctataag tggcttga tctaagaacc cagtttaccg ttgagagct tagaaaaaga 960
 atccaggaa ataataactt tggcaaggta agaatttctt cagaagtata ctataagaat 1020
 gtttctttt taaaaaaag ttgcagatt tcactagaaa gaagcatctt atggtacaat 1080
 agttatgttca tacaatttttaa agaattttt tccggataa ttgaggccctg taaaacgcacg 1140
 ggcagtttctt tttgttggg gttttgtt taaactgttta cactttcat ttgctactg 1200
 aacttcaccaa ctgccttttag tccaaagacag gcctccact tagcacttac ttcagtgacg 1260
 tgaaacttcg ttggctcctt gacaatgtga gaaaagttca aaaggccgtt gaagaaaaac 1320
 gagctttttt tggactatt gattcatggc ttatgggtt atgtttaat ataatggata 1380
 tatggagaat ttttcagaa atttttcta gactgcctt cctattgtt ctactagcag 1440

RECEIVED
 SEP 09 2003
 TECH CENTER 1600/2003

RECEIVED
SEP 09 2003
TECH CENTER 16/02/2009

3/9

gtcagactt ttaatttagca tgtaaaaacga cggccagtt tgctctgctg attatgaccc 1500
ttaacaatat gtaaattaaa ttgccaataa gtacaaattt aacctgattt tttactctg 1560
ccttagagtt gacaggagga gtcaatggag gtgtccactg tacagatgta acaaatgcaa 1620
gtaggactat gctttcaac attcattttt tggaaatggga taaacaactc tgcgagtaag 1680
ttctgtttt ctctaaatat agtttccca atacactacc tatttataac cgaaatctta 1740
atattttcag atgtcagttt agcatgtaaa acgacggcca gtacagtgtt aaataccaa 1800
tcttcttgg tttcagattt tttggaaattt caatggaaat tcttccaaat gtccggagtt 1860
cttctgagat ctatggccta atggtaaaaa acaaacaam aacaaaaaaa caaacaaaaa 1920
tactattcat aattcaaaag tcaactgtgt tatgttttgc ttttttacaa tggaaagctg gggccttgg aggtgtgcca 1980
caccaagtgt ctccccatcc ccacccttcc ccatgtttagt gactaaaaaa ctttacagtc 2040
tcagtgtgcc tctttttaaa cttagggaaaa caagtaaaag tggccattt agaatctttt 2100
tgccttaca tgcataactg tggccattt agaatctttt atatctggg taagtttcat 2160
tcccttccca tacattttt cttacatatt aacaaatggt gtttttttttggcaaaattt ggannntct 2220
gccaaatgga gaaaatgaa gaaaatagac agttcattct aataaaatcct atggctttc taaaaagaaa gttataacta 2280
tattgtcatt tatacttca gtgttaggg gaccagtctg tgcttccaga ttggacaagc caaaaatacg tgagttttagt 2340
gctgtttgt ttttttact tgggtcttgc aataaggaaa gatggaaaatc aatagcttaa tagctccaat atgcataat atatctttaa ataaaataca aaatgccata tataatgcaca 2400
ctaaatttgc aggctggcg cggttatttgc cttcaataa attaacaat gggaaaaatg 2460
cccttcaacc ataggatgg aacaggatgt ttcttactat gtratacagg ccataagggtt 2520
ggttttttaa attaaaaat tgattttaa gtctaaatgc atctaaatataa tgcttgaaca 2580
taatttacta ttaacaact ttttagtctt agctttact taatctttt ctttttttttgc 2640
tttagagctc aatacaaaaat tgaatcgtt ctaataagaa ccatttttgc 2700
tttatatgtg tgtttttaat tggctgggg gggaaatctg actgagaccc atgtgttctt 2760
ttaatgcaaa tctaatttgc aacaaggaaat aaacttttgc tacagcttgc 2820
aattctgatc gttttgactg taaggattt ttttttttttgc ctttttttgc 2880
tttgcatttttgc ttttttttttgc aatgttctca tggttatctt tcatatgttgc 2940
ctactgaaat cttttttttgc ttttttttttgc aatgttcttgc ttttttttttgc 3000
ccacagtggc ttacaaactt ggcagagaca aaccagtata ttatgttgc 3060
ctttttatc aatatggata atatgacaaa cattcaaaatc taataaaaatc 3120
tctaaccatttgc ttttttttttgc aatgttctca tggttatctt tcatatgttgc 3180
tttgatttagtgc ttgaagggaaat ctggaaacttgc ttttttttttgc 3240
attagattgg ttcctcaggat ttttttttttgc aatgttctca tggttatctt 3300
agagctctac aatgttgcattt ttttttttttgc aatgttctca tggttatctt 3360
gctctctaaat ttttttttttgc aatgttctca tggttatctt tcatatgttgc 3420
gttccaaaga gaaaccctggg cacaatagg cagaacaact ctcttcaactt gtcctctcat 3480
aaaaataaaat tttgttgcattt ttttttttttgc aatgttctca tggttatctt 3540
tatcactggc aacatttgc ttttttttttgc aatgttctca tggttatctt 3600
aaggctatataat ttttttttttgc aatgttctca tggttatctt tcatatgttgc 3660
catatttgc gggatcttgc aatggaaacttgc aatgttctca tggttatctt 3720
agaatatgtcttgc caataaaaatc ttttttttttgc aatgttctca tggttatctt 3780
tttttttttgc aatgttctca tggttatctt tcatatgttgc 3840
tttttttttgc aatgttctca tggttatctt tcatatgttgc 3900
tttttttttgc aatgttctca tggttatctt tcatatgttgc 3960
aaggctatataat ttttttttttgc aatgttctca tggttatctt tcatatgttgc 4020
catatttgc gggatcttgc aatggaaacttgc aatgttctca tggttatctt 4080
agaatatgtcttgc caataaaaatc ttttttttttgc aatgttctca tggttatctt 4140
tttttttttgc aatgttctca tggttatctt tcatatgttgc 4200
tttttttttgc aatgttctca tggttatctt tcatatgttgc 4260
tttttttttgc aatgttctca tggttatctt tcatatgttgc 4320
tttttttttgc aatgttctca tggttatctt tcatatgttgc 4380
tttttttttgc aatgttctca tggttatctt tcatatgttgc 4440
tttttttttgc aatgttctca tggttatctt tcatatgttgc 4500
tttttttttgc aatgttctca tggttatctt tcatatgttgc 4560
tttttttttgc aatgttctca tggttatctt tcatatgttgc 4620
tttttttttgc aatgttctca tggttatctt tcatatgttgc 4680
tttttttttgc aatgttctca tggttatctt tcatatgttgc 4740
tttttttttgc aatgttctca tggttatctt tcatatgttgc 4800
tttttttttgc aatgttctca tggttatctt tcatatgttgc 4860
tttttttttgc aatgttctca tggttatctt tcatatgttgc 4920
tttttttttgc aatgttctca tggttatctt tcatatgttgc 4980

RECEIVED

SEP 09 2003

4/9

TECH CENTER 1600/2000

attaggcaaa ggaaacagca caaacatagg catcaaggca gaaaaacagg gtgcaaaata 5040
gagttgtata gcttagctga atatcaaggt gaatgcagag gtgttagtgag agaaaaagggtt 5100
ggctgtgacc agatcaaaga gggcttagaa gaccagaata agaagtctca atttattcca 5160
taggctcttgc aagacttgc agagttctg agtggaggat 5220
ctatgaaata gatttataac attaattgca ctggtttatt taagattttg gatccatga 5280
atcgagactg tggaaattcca ctcagtcatt tgcaggtaga 5340
aaattcttgc gca gctacaa gcagacattc tgtatatacc tggaggaatg accagcaaca
ttcctttaaa ctcccagagt aatgtttctt gtggaaataac 5400
gacggccagt tcccagagta atgtttctt tggaataact agtaggttag taagtcttca
ccacaaagat attgatggaa ctctctctcc tcagtgaagc 5460
gcactgggtg cggctatggc ggcaggggct gcagaaggag
cccgaggatt tgcgtccgt cacgatggag cggttgaac 5520
acattaaag aatgaaatgt tcagtgatat actgtaaaaa
tttggggggc tggtttttc tggttagtta aaagttaaagg aaccaagtaa
cagattcggc tgccaaagcat attgggctt actgaataaa 5580
gcttatcaaa agaacttcta aaatcactt ttaaaaatca
agccctactg cagtttaatg tgcataataat ttgtcaagaa
ggtaactaaga acatctcagc aaactacctt tcgttatgt
tagaaagtga aattcggtt tctacatgga agaaagctgt 5640
ttacaactca atctccagaa agtggtaaaa atgtttttgt
tagtatatta aatagttatt taagtatcta ggcatttaca
gaaaagcatt atcatatgtc cagagattt gacattttga
cacaaaatgt aaattatcag gtgtgtaaa acgacggcca
tggaaatctt tctgttggc tgaccacagg tgaccctagt 5700
gggctttttt atagtgagta gcatggtaat gttaatcgga
gttactctt aaattagaca actctattag tttagttttaa
cagaaaatttt tcagtggtt tcattcttgc tggtcttagg
ggcttaattt gttagaccaa ttaatctttg gggcagttt
gcttaccctt tttaaattttt taatgtgtatg acttctttaa
cagctgcagc aataagcaaa agtggaaaata ctaatattta
gactgctgaa agttaaagta tactttaaaat tactggctt
ttctgtatgt tcccatgaaa gtggaaacttta aaaaaaaaaat
aaaggcccttg ttcttatgaa aatttgagaca ggttgcatt
tatgtgtcta gagtcttaga cttctaaaat gcatgtggc
tcgggtacat acactgcaat ttgagagggc tgaaatttgt
caacagtggc aatattgtt aattttggaa ttggccctgt
ggcatgattt agaaatcata tggactttt agcttaataa
gctttaactc ctgaattgtc tgcatgtatt attgacatat
caggtattcc ataaaaccta ccaactcatg gattcccaag
gaaagaaccc agcaattctg tctcttaatg caatgacact
tttataagcc acttgctgca tgaccctcca agtagacact
gcagcaaaaaa gaatgtata gaaatatttg gtggttttt
ttaagggtgg gccagctacc tttggggctg accccctcca
attccctcta agatgttagga agaattcgga tccttaccat
actcaaacac ttttggacca ggatttgagt ctctgcatt
tattactaac ctgtttaaaaa tcagcagctc tttgtttta
ctttctaca tagttgaaga cagcaacatc ttcaactgaat
taaatttattt aaatagacat ttagtggat cacagcttgc
ttgccaaaac tgaaatcctt cagatgtttt ccatggccc
gtctgggtct tatagaaaaa gatactttt tttttttcc
ttactttgtt tgcataacat acatgcctat atattttata
aaataaaagag cacatttatc tcagaagggtt ctaacaggg
5079

<210> 6
<211> 41
<212> PRT
<213> Unknown

<220>
<223> GK N288D mutant

<400> 6
 Phe Gln Ile Gly Gln Ala Lys Asn Thr Tyr Gly Thr Gly Cys Phe Leu
 1 5 10 15
 Leu Cys Asp Thr Gly His Lys Cys Val Phe Ser Asp His Gly Leu Leu
 20 25 30
 Thr Thr Val Ala Tyr Lys Leu Gly Arg
 35 40

<210> 7
<211> 41
<212> PRT
<213> *Homo sapiens*

<400> 7
 Phe Gln Ile Gly Gln Ala Lys Asn Thr Tyr Gly Thr Gly Cys Phe Leu
 1 5 10 15
 Leu Cys Asn Thr Gly His Lys Cys Val Phe Ser Asp His Gly Leu Leu
 20 25 30
 Thr Thr Val Ala Tyr Lys Leu Gly Arg
 - 35 - 40 -

<210> 8
<211> 41
<212> PRT
<213> Unknown

<220>
<223> Rat

```

<400> 8
Phe Gln Asp Gly Gln Ala Lys Asn Thr Tyr Gly Thr Gly Cys Phe Leu
  1           5           10           15
Leu Cys Asn Thr Gly His Lys Cys Val Phe Ser Glu His Gly Leu Leu
  20          25          30
Thr Thr Val Ala Tyr Lys Leu Gly Arg
  35          40

```

<210> 9
<211> 41
<212> PRT
<213> Unknown

<220>
<223> Mouse

<400> 9
 Phe Gln Asp Gly Gln Ala Lys Asn Thr Tyr Gly Thr Gly Cys Phe Leu
 1 5 10 15
 Leu Cys Asn Thr Gly His Lys Cys Val Phe Ser Glu His Gly Leu Leu
 20 25 30
 Thr Thr Val Ala Tyr Lys Leu Gly Arg
 35 40

<210> 10
 <211> 39
 <212> PRT
 <213> *E. coli*

<400> 10
 Val Lys Glu Gly Met Ala Lys Asn Thr Tyr Gly Thr Gly Cys Phe Met
 1 5 10 15
 Leu Met Asn Thr Gly Glu Lys Ala Val Lys Ser Glu Asn Gly Leu Leu
 20 25 30
 Thr Thr Ile Ala Cys Gly Pro
 35

<210> 11
 <211> 39
 <212> PRT
 <213> *Pseudomonas aeruginosa*

<400> 11
 Val Glu Pro Gly Gln Ala Lys Asn Thr Tyr Gly Thr Gly Cys Phe Leu
 1 5 10 15
 Leu Met His Thr Gly Asp Lys Ala Val Lys Ser Thr His Gly Leu Leu
 20 25 30
 Thr Thr Ile Ala Cys Gly Pro
 35

<210> 12
 <211> 39
 <212> PRT
 <213> *Enterococcus casseliflavus*

<400> 12
 Phe Glu Lys Gly Met Ile Lys Asn Thr Tyr Gly Thr Gly Ala Phe Ile
 1 5 10 15
 Val Met Asn Thr Gly Glu Glu Pro Gln Leu Ser Asp Asn Asp Leu Leu
 20 25 30
 Thr Thr Ile Gly Tyr Gly Ile
 35

<210> 13
 <211> 41
 <212> PRT
 <213> *Haemophilus influenzae*

<400> 13
 Val His Ala Gly Gln Ala Lys Asn Thr Tyr Gly Thr Gly Cys Phe Met
 1 5 10 15
 Leu Leu His Thr Gly Asn Lys Ala Ile Thr Ser Lys Asn Gly Leu Leu
 20 25 30
 Thr Thr Ile Ala Cys Asn Ala Lys Gly
 35 40

<210> 14
 <211> 39
 <212> PRT

<213> *Bacillus subtilis*

<400> 14

Phe	Glu	Gly	Met	Gly	Lys	Asn	Thr	Tyr	Gly	Thr	Gly	Cys	Phe	Met
1				5				10				15		
Leu	Met	Asn	Thr	Gly	Glu	Lys	Ala	Ile	Lys	Ser	Glu	His	Gly	Leu
								20			25			30
Thr	Thr	Ile	Ala	Trp	Gly	Ile								
							35							

<210> 15

<211> 41

<212> PRT

<213> *Saccharomyces cerevisiae*

<400> 15

Tyr	Lys	Pro	Gly	Ala	Ala	Lys	Cys	Thr	Tyr	Gly	Thr	Cys	Phe	Leu
1								5			10		15	
Leu	Tyr	Asn	Thr	Gly	Thr	Lys	Lys	Leu	Ile	Ser	Gln	His	Gly	Ala
								20			25		30	
Thr	Thr	Leu	Ala	Phe	Trp	Phe	Pro	His						
							35				40			

<210> 16

<211> 41

<212> PRT

<213> *Mycoplasma genitalium*

<400> 16

Thr	Glu	Pro	Gly	Met	Val	Lys	Asn	Thr	Tyr	Gly	Thr	Cys	Phe	Val
1								5			10		15	
Leu	Met	Asn	Ile	Gly	Asp	Lys	Pro	Thr	Leu	Ser	Lys	His	Asn	Leu
								20			25		30	
Thr	Thr	Val	Ala	Trp	Gln	Leu	Glu	Asn						
							35				40			

<210> 17

<211> 39

<212> PRT

<213> *Enterococcus faecalis*

<400> 17

Phe	Glu	Pro	Gly	Met	Val	Lys	Asn	Thr	Tyr	Gly	Thr	Ser	Phe	Ile
1								5			10		15	
Val	Met	Asn	Thr	Gly	Glu	Glu	Pro	Gln	Leu	Ser	Lys	Asn	Asn	Leu
								20			25		30	
Thr	Thr	Ile	Gly	Tyr	Gly	Ile								
							35							

<210> 18

<211> 41

<212> PRT

<213> *Mycoplasma pneumoniae*

<400> 18
 Val Glu Pro Ala Met Val Lys Asn Thr Tyr Gly Thr Gly Cys Phe Met
 1 5 10 15
 Leu Met Asn Ile Gly Asn Glu Leu Lys Tyr Ser Gln His Asn Leu Leu
 20 25 30
 Thr Thr Val Ala Trp Gln Leu Glu Asn
 35 40

<210> 19
 <211> 41
 <212> PRT
 <213> Synechocystis PCC6803

<400> 19
 Asp Arg Pro Gly Leu Leu Lys Cys Thr Tyr Gly Thr Gly Ala Phe Leu
 1 5 10 15
 Val Ala Asn Thr Gly Gln Thr Val Thr Arg Ser Gln His Arg Leu Leu
 20 25 30
 Ser Thr Val Ala Trp Thr Gln Thr Asn
 35 40

<210> 20
 <211> 12
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> GK gene polymorphism

<400> 20
 ggacargacc ct 12

<210> 21
 <211> 16
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> GK gene polymorphism

<400> 21
 aaacaaaahaa acaaaa 16

<210> 22
 <211> 13
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> GK gene polymorphism

<400> 22
 actatgtrat aca 13

<210> 23
 <211> 16
 <212> DNA

<213> Artificial Sequence

<220>

<223> GK gene polymorphism

<400> 23

aacaaaagkt tagaaa